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The Interplay of Stress and Attachment in Individuals Weathering Loss of Employment

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1. Attachment theory has become a cornerstone in our understanding of interpersonal functioning across the lifespan, spanning numerous research projects examining adult attachment security. As research on attachment security accumulates, earlier questions concerning whether adult attachment is a stable personality characteristic are giving way to more complex questions of when and why change might occur, and what the consequences would be. Fraley and Brumbaugh's (2004) recent review of 26 longitudinal studies found consistent evidence of moderate stability in both categorical and continuous measures of adult attachment across periods ranging from one week (Pistole, 1989; $r = .52$) to 26 years (Klohnen & Bera, 1998; $r = .55$). Davila and Cobb (2004) noted that these moderate test-retest correlations reflect some stability, but also allow for substantial variation over time. Davila and Cobb also reviewed research suggesting that exposure to stressful life events, even those not directly related to relationships, may lead to a greater sense of insecurity, at least temporarily.

This picture is complicated by findings concerning stress generation. Two recent studies (Bottanari et al., 2007; Hankin, Kassel, & Abela, 2005) find evidence that insecurely attached adults are more likely to experience new stressful events when compared to securely attached adults. Taken together, these findings suggest a more dynamic bidirectional framework, with sense of security and stressful events influencing each other. Studying such dynamic processes requires that we use longitudinal designs and track fluctuations in both attachment security and stressors over time. Davila and Cobb (2004) note that dynamic models also require attention to time scale, suggesting that dynamic effects may operate over relatively short time periods.

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In order to test this more dynamic model, we capitalized on data from a recent longitudinal study of involuntary unemployment, focusing on two questions. First, does the cascade of stressors that occurs following job loss predict fluctuations in adult sense of security? Second, does a person's attachment security at a given point predict differences in subsequent exposure to stressors?

1.1. Do Stressful Events Predict Fluctuation in Romantic Attachment Security During a Period of Unemployment?

Several attachment researchers have recommended that adult attachment patterns be conceptualized in dimensional rather than categorical terms (Allen, Huntoon, & Evans, 1999; Sperling, Foelsch, & Grace, 1996), as studies have found only weak evidence for an adult attachment typology (Fraley & Waller, 1998; Shaver, Belsky, & Brennan, 2000). Researchers have argued that precision is lost with typological measures, and alternative measurement systems such as continuous scales may demonstrate better test-retest reliability (Baldwin & Fehr, 1995; Feeney, Nollar, & Callan, 1994; Scharfe & Bartholomew, 1994). A high level of attachment security is characterized by faith in the responsiveness of important others, appropriate self worth, and comfort with interdependence (Gillath, Hart, Nofle, & Stockdale, 2009). Attachment insecurity, on the other hand, is characterized by anxiety and worry related to self worth, extreme need for interpersonal closeness, and by avoidance, with an emphasis on autonomy and reduced tolerance for interpersonal intimacy. We used Collins' (1996) measure of attachment security, which includes subscales for assessing the components of closeness to others, ability to depend on others, and anxiety about abandonment. Most studies have combined these subscales to create a summary score, and we followed that approach in the current study, but we also explored whether the dynamics of attachment security might vary across subscales.

There is evidence that exposure to stressful events can reduce sense of security, but the data are not completely consistent. A number of studies have identified within-person associations between daily events and changes in attachment styles or security (Allen, McElhaney, Kuperminc, & Jodl, 2004; Davila & Kashy, 2009; Gentzler, Kerns, & Keener, 2010; Muller & Rosenkrantz, 2009). Further, these within-person associations may be particularly influential when they are viewed as indicative of loss (Davila & Sargent, 2003). Cozzarelli, Karafa, Collins, & Tagler (2003) further found that women with a history of abuse and/or depression displayed lower levels of attachment stability, but also suggested that changes toward greater security may be more related to situational factors, while changes toward insecurity may better reflect stable vulnerability factors. Studies have suggested that relationship-related life events are predictive of change in attachment security (Kirkpatrick & Hazan, 1994; Ruvalo, Fabin, & Ruvalo, 2001). Attachment stability may differ for those who are or are not in a current romantic relationship. Nofle and Shaver (2006) found that individuals who were not in a relationship reported higher levels of avoidant attachment than those who were in a relationship, suggesting that findings might differ for these two groups because of the salience of attachment figures during stressful periods; the present study will test findings to see if they are influenced by relationship status.

How would stressors associated with involuntary unemployment influence attachment security? Stressors experienced by job seekers often involve negative social interactions, including rejection or humiliation by potential employers and social service personnel, conflict with landlords and creditors, and arguments with other family members (Howe, Levy & Caplan, 2004). In particular, the financial hardship that often accompanies job loss may reduce the capacity for individuals and their attachment figures to respond effectively to stressors, increasing the frequency of negative and stressful interactions among family members and altering the organization of these attachments (Allen et al., 2004; Conger, Ge, Elder, Lorenz, & Simons, 1994). More specifically, Wilson (2001) found that greater economic strain following job loss was associated with higher sociotropy, a personality dimension strongly related to anxious attachment in other research (Sibley & Overall, 2007), and both were related to reports of negative interaction with romantic partners. While a measure of economic and job-loss related stressors may not explicitly seem to focus on interpersonal stressors, Wilson's research suggests that the two are correlated.

Job loss and its aftermath provide a means of studying this question prospectively, as job loss ushers in a period of economic uncertainty that can lead to a cascade of specific stressors. These may vary in intensity, from new daily hassles to severe sequelae such as losing one's home or being exposed to humiliation and rejection when searching for employment. In this study we were able to track dynamic patterns of stress exposure by following people for several months after job loss, and periodically assessing the stressors they were experiencing. We also measured stressors in three different ways, assessing severity of the job loss itself as well as fluctuations in moderate and severe stressful events related to job-loss and economic strain at five occasions, allowing us to test whether different aspects of stressors were related to attachment security. This prospective design also allowed us to study how stressors in one period might be related to fluctuations in reports of attachment security, which we measured three times over the course of six months. It also allowed us to test this thesis across more than one time period, to determine whether it replicated across waves of assessment.

1.2. Does Attachment Security Measured at One Time Point Predict Later Changes in Stressors?

Although less frequently studied, there is evidence that attachment security may contribute to stress exposure. In a study of depressed women, Bottonari, Roberts, Kelly, Kashdan, & Ciesla (2007) found that avoidant and anxious attachment interacted with each other in predicting sociotropic but not autonomous life events, but only for women with milder depression. Those women with high anxious attachment but low avoidant attachment reported more sociotropic events, as did those women with high avoidant but low anxious attachment. Bottonari et al. interpreted these findings as evidence supporting a stress-generation model, although the non-longitudinal nature of the study limits confidence. Longitudinal data will be useful in evaluating likely direction of effect.

Is there reason to believe that attachment security would lead to generation of stressors such as those experienced by the recently unemployed? Attachment security has been associated with behavior in interpersonal interactions, conflict resolution (Pistole, 1989), self-

disclosure (Mikulincer & Nachshon, 1991), and expression of anger (Mikulincer, 1998). While insecure attachment is clearly associated with difficulties in romantic relationships, there is also evidence that insecurely attached individuals have more difficulty in other social domains, including work relationships (Rholes, Simpson, & Orina, 1999). Bottanari et al. (2007) did not find that attachment security was associated with rates of autonomous or non-social stressors, replicating findings in an earlier prospective study of college students (Hankin et al., 2005). Given evidence that stressors experienced by job seekers often involve social interactions, we hypothesized that attachment security would contribute to the generation of stressors in the months following job loss. Because we measured stressors five times over this period, we were able to approach this question prospectively by testing whether attachment security measured at our first and third waves was related to subsequent changes in stressors at the second and fourth waves.

1.3. Goals of the Current Study

Building on previous research examining attachment security over time, the current study tested a dynamic model of the interplay between attachment security and exposure to stressors utilizing prospective longitudinal data from a sample of recently unemployed adults. We began by testing whether attachment security demonstrated systematic changes over the eight months following job loss. We then included measures of three types of stressors collected during the first interview to test the hypothesis that variation in the stress of job loss and its immediate sequelae would be associated with more insecurity at that time, and with different rates of change in security over the next six months. Next, we specified autoregressive models to test the hypothesis that fluctuations in attachment security across shorter three month periods would be predicted by variation in moderate and severe stressors occurring during those times. We also tested the alternative hypothesis that associations between stressors and attachment could be due to earlier levels of attachment influencing changes in exposure to stressors.

2. Method

2.1. Participants

Participants were job seekers who resided in one of six counties in the Baltimore-Washington, D.C. metropolitan area and were recruited through the assistance of the statewide unemployment insurance agency between February 2007 and December 2008. Each potential participant was pre-screened to determine eligibility, using the following criteria: a) had been unemployed for no more than five weeks; b) had not received a new full-time job or was not working in any job for more than 19 hours per week; c) had not quit previous job; d) had been laid off permanently (without possibility of being rehired); e) had not been planning to retire in the next two years; f) lost job was not seasonal; and g) the participant was able to speak and read English. Over a period of 22 months, 1,056 people were screened and 643 individuals met the eligibility criteria for the study. In cases where a potential participant was not eligible, the most common cause was due to the length of time since job loss.

Potential participants who were eligible were given a short description of the study and invited for an in-person interview. In order to assure our sample contained adequate diversity, we employed heterogeneous purposive sampling, a method designed to aid in generalization of results when random sampling cannot be implemented (Shadish, Cook & Campbell, 2001). We used this method to ensure that our final sample had proportionate numbers of males and females and similar percentages of African American and Caucasian participants. In order to achieve this balance, we oversampled for African American males. The final sample consisted of 426 individuals who had experienced a recent job loss. The sample was 51% female, and ranged in age from 19 to 81 (mean age = 46). Forty-seven percent were Caucasian, 42% African American, 6% more than one race, 2% Hispanic, and 3% unknown or other (American Indian, Asian, Pacific Islander). On average, participants had completed 14.4 years of education ($SD = 2.64$), ranging from 8 to 20 years. Median household income was \$63,000 before job loss, and \$17,000 after, with 38% of the sample reporting no income after job loss. Based on 2008 weighted average poverty thresholds (U.S. Census Bureau, 2010), 6% of participant households were below poverty line before job loss, with 51% of the sample below poverty threshold after job loss. Almost 58% reported being either married (38%) or in a stable relationship (19%) at the beginning of the study. Less than 3% (12 of 426) reported that this relationship had ended by the final wave of data collection.

2.2. Procedure

Participants completed a series of five interviews over a six month period, at six week intervals. The initial interview took place in person, generally in the home of the participant, and follow-up interviews were conducted by telephone. In person interviews ranged from two to four hours and follow-up interviews lasted from 30 minutes to two hours. All elements of data collection were computer-based, some interviewer administered and some self administered. Retention rates were relatively high, averaging 83%. Eighty-five percent completed the Time 2 (T2) and Time 3 (T3) interviews, 72% completed the Time 4 (T4) interview, and 88% completed the Time 5 (T5) interview. The interview period for T5 was extended beyond the two week post-target window in an effort to increase the number of completed assessments at the final time point, resulting in an overall eight-month window. Participants were compensated \$15 per hour for their time.

2.3. Measures

2.3.1. Attachment Security: Attachment security was measured with the Revised Adult Attachment Scale (RAAS, Collins, 1996), an 18 item questionnaire that asks individuals to rate their feelings in regard to romantic relationships. This measure asks subjects to consider romantic relationships in general in their life, both in the past and present, along with how they imagined such relationships would be if not actually experienced. Respondents rated statements on a 5 point likert scale (1 = not at all characteristic of me to 5 = very characteristic of me). The measure consists of three, 6-item subscales; 1) Close (I find it relatively easy to get close to others; I do not worry about other people getting too close to me); 2) Depend (I find that people are never there when you need them; I am comfortable having others depend on me); and 3) Anxiety (I am nervous when anyone gets too close; In relationships, I often worry that my partner will not want to stay with me). The Close

subscale measures a person's level of comfort with closeness and intimacy (Collins, 1996). The Depend subscale measures the level at which a person feels he or she can count on others when in need, and the Anxiety subscale measures a person's worry about being abandoned (Collins, 1996). Study participants were administered these items at the initial in-person interview (T1), the second telephone follow up (T3), and the final telephone follow up (T5) interview. Internal consistency across the three time points was stable for each of the three subscales (average for Close $\alpha = .68$, Depend $\alpha = .75$, Anxiety $\alpha = .89$).

Recent research has used this measure in two ways. Several authors have suggested that the measure allows for separate subscales for anxious and avoidant attachment, using the Anxiety scale as an index of anxious attachment, and the average of the Close and Depend scales (reversed) as an index of avoidant attachment, with higher scores reflecting more anxious or more avoidant attachment (Brennan, Clark, & Shaver, 1998; Ravitz, Maunder, Hunter, Sthankiya, & Lancee, 2010). We followed this approach for our primary analyses, given the possibility that these two forms of insecure attachment might operate differently. However, based on strong intercorrelations among the subscales Allen et al. (1999) created a bipolar index of overall attachment security, averaging the Close and Depend scales and subtracting them from the Anxiety subscale to create an index with higher scores reflecting more insecure attachment. We also conducted analyses with this composite measure, so our results could be compared to findings from other studies using this method. We report findings using both approaches.

2.3.2. Stressful events checklist: The first rating of stress is based on a checklist of stressful events specific to the period following loss of employment (Howe et al., 2004). The measure includes 51 events in five categories: income supplementation, restrictions in spending and increased debt, change in routines, new demands for job search and training, and physical relocation. Job seekers rate the occurrence of each event as having occurred or not occurred. Data from this measure was collected at all five waves. Earlier studies find strong convergence with reports of life events by significant others, and evidence that the measure is predictive of depressive symptoms following job loss (Howe et al., 2004). Scores on this measure were created by summing the number of endorsed events. This measure demonstrated good reliability in this sample with Cronbach alphas ranging from 0.91 to 0.96.

2.3.3. Contextual stress ratings: At each wave of data collection, interviewers used a semi-structured interview to gather information about the specific nature of the job loss event and about changes in finances, housing, and employment activities in the months after job loss. The interview was an adaptation of the Structured Life Events Inventory (SLI; Wethington, 1997), which gathers information on events and the contexts in which they occur, allowing for systematic contextual rating of level of threat for each significant event. All interviews were audio recorded. A separate extraction team, extensively trained on methods for systematic extraction of information, prepared written accounts of each event from the audio recording, including information about the nature of the occurrence, its duration, and its consequences. Events were then divided into two categories: 1) the initial job loss and 2) all events subsequent to the job loss.

2.3.4. Initial job loss threat: The initial job loss was coded using extended criteria based on the Life Events and Difficulties Schedule (LEDS; Brown & Harris, 1978). Based on the LEDS principles, we identified 16 sources of threat, defined as characteristics of the event that would increase its stressful nature. These included the following: loss of health insurance, unpredictability of lay-off, evidence that termination is due to the individual's behavior, career derailment, loss of seniority, devaluing messages and hostility during lay-off, uniqueness (single versus mass lay-offs), personal circumstances making reemployment more difficult, loss of identity, percentage of household income lost, amount of notice, loss of benefits other than health insurance, first time being laid off, and amount of severance received (reverse scored). Two sources of threat, family conflict concerning termination and loss of important social support system, were dropped from the final analyses as very few participants cited these as present at the time of their job loss. The last five sources were assessed through quantitative questionnaire items (percentage of household income lost, days of notice prior to lay-off, a summation of lost benefits including variables such as paid time off, holidays, sick leave, etc., first time being laid off, and amount of severance received).

For the remaining sources of threat we created a coding manual with specific coding rules. A coding team was trained to criterion in the use of this manual. Written event descriptions were then randomly assigned to pairs of coders in weekly batches. All descriptions were rated by both coders. Coders met weekly to review disparate codes and to discuss and resolve discrepancies. Only the final reconciled codes were used in the analyses. Scores from the 9 ratings were combined with those from the 5 questionnaire items to form a final index of initial job loss threat. Given that different sources of threat used different scales, we rescaled all ratings to a common metric before combining them. We combined all ratings into an aggregate score and assessed inter-rater agreement at this level, given that data were analyzed at this aggregate level. We therefore calculated an intra-class coefficient as an index of agreement, given the continuous scaling of this score, leading to a coefficient of 0.77.

2.3.5. Post-job loss events severity: The impact of economic, employment, and housing events that occurred subsequent to job loss was also rated by a separate team of two coders. Employment, economic and housing events were rated using the Life Events and Difficulties Schedule (LEDS) Dictionary (Brown & Harris, 1978). This manual outlines explicit rules and criteria for rating severity of specific stressful events, and includes a set of examples from prior studies. As the LEDS dictionary had a very limited set of examples of employment events, we used principles from the LEDS system to develop an expanded set of examples in the area of employment stressors.

The LEDS coding system employs a 4-point rating system for severity, although the second highest category (moderate) is often broken into two categories of low moderate or high moderate. We used this five point system and reversed the scaling such that higher scores indicated more severe threat. Thus events were coded using a scale of 1 (*limited or no threat*) to 5 (*severe threat*). All events were rated by both raters, and any disagreements between the two raters were reconciled by consensus. Inter-rater agreement was determined pre-reconciliation and was acceptable, with a weighted kappa coefficient of 0.68.

Because the LEDS system is oriented towards severe life events which are relatively rare, a substantial number of our participants reported no codeable events at each wave (T1=70%, T2=26%, T3=60%, T4=48%, T5=48%), with only a few participants reporting two or more events. We therefore decided to use the highest rated event at each wave as an index of the severity of stressful events during that period. As a result, scores on this measure ranged from 0 (no events reported) to 5 (at least one severe event reported). This decision was made prior to conducting any analyses with this measure.

3. Results

All analyses were conducted with MPLUS version 7 (Muthén & Muthén, 1998-2012). We used full information maximum likelihood estimation to address missing data, and used the MLR estimation procedure for all analyses, to produce robust standard errors. Chi-square estimates from nested models based on MLR cannot be directly compared; we therefore used scaling factors provided by the program to calculate a scaled difference chi square test statistic (Satorra & Bentler, 2010) for comparing such models. Table 1 presents the means, standard deviations, and correlations among all variables used in these analyses.

3.1. Changes in attachment over three waves

We used latent growth modeling to study linear change over the three measurement occasions. Growth models require specification of a common start time and durations between measurement occasions. We chose the date of job loss as the common start time, under the assumption that this marked a common qualitative shift in the economic and employment conditions of all participants. We based this determination on the method and rationale given by Singer and Willett (2003), who describe a very similar growth model evaluating changes in symptom levels after a major event such as job loss. The intercept is set to the value when time is at zero for each participant, by setting the loadings on the intercept factor equal to the number of weeks since job loss for each of the five time points. Growth models can be specified with fixed durations between measurement occasions under the assumption that everyone is interviewed at the same follow-up times. Inspection of our data indicated some variation in individual follow-up times for our fifth assessment; we therefore specified a more complicated random effects model allowing for varying times of measurement, using exact durations for each individual. With three time points for attachment we were only able to estimate simple linear slopes for each individual, and under this specification the intercept (time = 0) was set at date of job loss. We scaled duration since job loss in months, such that unstandardized growth parameters would reflect change in terms of number of scale points per month.

Using scores for avoidant and anxious attachment, we first estimated two separate latent growth models that included mean and variance parameters for intercept and slope. Results of these models, reported in Table 2, found that mean slopes differed significantly from zero for both avoidant and anxious attachment, with the sample as a whole moving towards more secure attachment in each domain over time. This may reflect a return to baseline after an initial increase in insecure attachment following job loss, although we were unable to test this thesis directly in the absence of data prior to job loss. The slope variance was not

significant for avoidant attachment, but showed a tendency toward significance for anxious attachment.

As a test of the generality of these findings, we repeated these analyses by specifying models that compared parameters across two groups: those who reported being married or in a stable relationship at Time 1, and those who indicated they were not married or in such a relationship. For avoidant attachment, we found no changes in model fit when parameters for these two groups were fixed to be equal (change in Satorra Bentler $\chi^2(5) = 8.27, p > .10$). However, fixing all parameters reduced fit for anxious attachment (change in Satorra Bentler $\chi^2(5) = 39.96, p < .0001$). We used a series of model comparisons to identify the most parsimonious model; these parameters are reported in Table 3. Slope-intercept correlations are fixed to equal, but all other parameters differ significantly. Those with a spouse or partner reported less anxious attachment at intercept, and showed no average change over time compared to those without a spouse or partner, who showed significant reductions in anxious attachment over time. Participants with a spouse or partner demonstrated less variability in initial levels of anxious attachment, but showed significant variation in attachment slopes, in contrast to those without a spouse or partner.

We repeated all analyses for the composite attachment score. Findings were very similar to those for the individual domain scores. Mean intercepts and slopes were significant (mean intercept = 6.312, SE = 0.482, $p < .001$; mean slope = $-.232$, SE = .046, $p < .001$) and intercept variance was significant (variance = 60.851, se = 7.418, $p < .001$), but slope variance was not. Group analyses comparing those with and without spouses or partners led to results similar to those for anxious attachment, with two differences. Correlations between intercept and slope could not be constrained to be equal (although they were not significant for either group), and mean slopes for both groups were negative (fading of insecure attachment) and significant, although stronger for the participants with no spouses or partners.

Stressors and three-wave growth in attachment. We added Time 1 measures of stressors as predictors of avoidant and anxious attachment intercepts and slopes. Preliminary correlational analyses using single predictors found that initial job loss threat itself was not significantly associated with either intercept or slope for either domain. T1 post-job loss events severity was associated with higher intercepts for both avoidant ($b = 0.679$, SE = 0.279, $p < .05$) and anxious ($b = 1.110$, SE = 0.430, $p < .05$) attachment, but not with the slope of either variable. Higher ratings on the stressful events checklist were also associated with intercepts for both (avoidant: $b = 8.303$, SE = 1.418, $p < .001$; anxious: $b = 13.028$, SE = 2.212, $p < .001$), and with more negative slope of anxious attachment ($b = -0.687$, SE = .259, $p < .01$). Table 4 reports the results of models for avoidant and anxious attachment that included initial job loss threat, T1 stressful events, and T1 post-job loss events severity as simultaneous predictors. Results were significant only for the T1 stressful events checklist. More stressful events at T1 were associated with higher intercepts for both anxious and avoidant attachment, as well as with more negative slopes for anxious attachment.

These findings indicate that, consistent with the stress-effect hypothesis, more T1 stressful events were associated with higher levels of avoidant and anxious attachment security at the

beginning of the study, and with greater decrease in anxious attachment over time. Initial anxious attachment may have been higher due to an initial stress effect, with anxious attachment fading subsequent to the initial effects of stress.

As an exploratory analysis we re-estimated this model for the combined insecure attachment score. Findings were essentially identical to those for anxious attachment, with T1 stressful events significantly associated with both higher intercept and decreasing slope of the combined insecure attachment score.

To test for generality, we re-specified the final models for avoidant, anxious, and total insecure attachment to include relationship status as a moderator. Model fit was not significantly changed when we constrained all parameters to be equal across the two groups for any of the three outcome measures. Given that the simple growth models had found evidence for significant slope variance in anxious attachment for those not in a relationship but not for those with a spouse or partner, we also tested that parameter alone. There was tentative evidence that more T1 stressful events were associated with negative slopes for subjects without partners ($b = -0.019$, $SE = .007$, $p < .01$) but not for those with partners ($b = -0.003$, $SE = .007$, $p = .17$), although differences in model fit only tended toward significance (Satorra Bentler χ^2 (1) for difference = 3.00, $p = .08$).

3.2. Wave-to-wave Changes in Attachment

Stressors and wave-to-wave change in attachment. The latent growth models estimated linear change over the entire study period, and allowed us to test whether early levels of stress were associated with later change in attachment, providing some information about temporal precedence. We were also interested in testing whether change across shorter periods might be predicted from variables measured at earlier wave. We therefore used autoregressive cross-lag regression models to study the association of stressors and wave-to-wave variation in attachment. Given that stressors were measured at all five time points, we were able to specify models involving lagged effects, testing whether stressors at a prior wave were associated with attachment at the next wave, after controlling for prior levels of attachment. In addition, we were able to include paths from attachment as predictors of stressors measured across the next six weeks, after controlling for prior stressors, as a test of the alternative hypothesis that attachment accounts for the occurrence of stressful conditions. Figure 1 illustrates this model.

We used a systematic modeling strategy, first testing whether autoregressive paths varied significantly across different waves. For example, we estimated a model where all autoregressive paths were constrained to be equal for each variable, and compared its fit to a model where these paths were freed for one of the variables, using the Satorra Bentler chi-square test. We used the final model from these analyses as a baseline model, and added in the various paths from stressors to attachment and from attachment to stressors. We again tested whether these cross paths varied across pairs of waves using similar model comparison tests.

Results of these analyses for avoidant and anxious attachment scores are presented in Table 5, and illustrated in Figure 1. Findings partially supported the stress-effect hypothesis.

Stressful event checklist scores at one wave predicted attachment at the next wave, after controlling for prior attachment, in three of the four relevant paths. Higher stressful events checklist scores were significantly associated with higher subsequent avoidant attachment at both the third and fifth waves, but only with higher anxious attachment at wave 3. No such associations were found for the post-job loss events severity measures. Findings also supported the stress generation hypotheses. Attachment at the first and third waves was associated with subsequent levels of post-job loss events severity for both avoidant and anxious attachment, although the effects for avoidant attachment only tended toward significance. In all cases, greater insecurity was associated with increases in post-job loss events severity. Similar patterns were observed for associations with stressful events checklist scores, although effects were not significant for T4 stressful events. Taken together, these findings are consistent with a reciprocal effects model for both avoidant and anxious attachment, with insecure attachment predicting increases in stressors, and increases in stressors predicting more insecure attachment. However, these findings suggest that the effects of stress on attachment may fade over time for anxious but not avoidant attachment, while the effects of attachment on stress are more stable for anxious than avoidant attachment.

We repeated these analyses with the combined insecure attachment score. Findings were essentially identical to those for anxious attachment, with one exception. For the total score, the T4 stressful events checklist was significantly associated with more T5 insecure attachment ($b = 0.114$, $SE = 0.035$, $p < .001$), with no evidence of fading, similar to the findings for avoidant attachment.

To test for generality, we re-specified the models for avoidant attachment, anxious attachment, and total attachment, comparing models where the parameters for those participants with or without a spouse or partner were forced to be equal with models where all parameters were allowed to vary across groups. None of the Satorra-Bentler tests reached significance, indicating that these models did not vary across relationship status.

4. Discussion

This study is one of the first to assess change in adult attachment security using multiple occasions of measurement and growth modeling. We found evidence for systematic change at two levels: short-run fluctuations across waves, and long-run change in attachment security over six months. As a whole, this is consistent with the interpretation that our sample experienced disruption in attachment security as a result of job loss then returned slowly to baseline over time, with no significant variation in linear change. The subscales of anxious and avoidant attachment differed minimally; both moved towards more secure attachment over time. Slope variance trended toward significant for anxious attachment but was not significant for avoidant attachment. In addition, the results of analyses examining the composite score of attachment did not differ significantly from that of anxious attachment. More stressful and more severe events were linked with more insecure attachment overall.

We also found that stressors were related to shorter-term fluctuations in attachment, although the picture was more complex, with attachment and stressors showing evidence of reciprocal effects. More insecure attachment predicted increases in moderate stressors, and insecure attachment generated more stressors. Reciprocal effects differed slightly across the subscales, most notably by demonstrating a fading effect for avoidant but not anxious attachment on generation of stress in the last three months of the six month observation period. These results are consistent with Fraley's (2002) dynamic systems framework that hypothesizes regulatory mechanisms that keep attachment security within a limited range, while allowing for short-term fluctuations around a setpoint that may differ for subscales of attachment security. Stressful events were implicated in both shorter-run fluctuations and long-run rate of change.

4.1. Reciprocal effects and stress generation

Consistent with findings by Bottanari et al. (2007), these reciprocal associations are analogous to Hammen's (1991) stress generation model of depression and negative life events, with an extended recognition that despite the effects of negative life events, individuals may return to a relative setpoint after a period of fluctuation. Hammen's model suggests that individuals with depression or a history of depression contribute to acute negative life events by their behaviors and responses to stressful life events. Further, these individuals may self-select into stressful environments or ongoing life circumstances that have a higher rate of expected stressors (Hammen, Brennan, & Le Brocque, 2011). Stress generation has also been extended to marital dysfunction (Davila, Bradbury, Cohan, & Tochluk, 1997).

Davila et al. (1997) described an important potential mechanism of the stress generation model, noting that women with higher levels of dysphoria solicited, received and gave more negative social support to their husbands, resulting in higher levels of marital stress. Further, wives' perceptions of social support were also a factor, impacting their behavior via expectations. Perhaps a similar process is at work with attachment; individuals with more insecure attachment may interact with others in ways that increase the number of stressful interpersonal and non-interpersonal events, thereby reciprocally exacerbating insecure attachment even farther.

These characteristics of the stress generation model may theoretically translate into the arena of attachment and life stressors, particularly in light of the major impact of the maladaptive and unstable quality of depressed individuals' interpersonal relationships. Consistent with this model, in addition to stress causing changes in attachment security, individuals who are experiencing attachment insecurity may generate stressful life experiences. For example, negative perceptions of how others will respond to them may alter responses to both interpersonal and non-interpersonal events, including work-related or job loss stressors. Given evidence that attachment insecurity is associated with increased risk for depression (Roberts, Gotlib & Kassel, 1996), this suggests that insecurity may also play an important role in the stress generation process. Further, attachment security setpoints may be lower for this group of individuals than for those with higher initial setpoints or with less susceptibility to stress generation effects.

Individual variability or the differences between job-related and interpersonal stressors could also potentially influence variability in attachment security in other ways. Moderate stressors were associated with increases in overall security over time as well as with fading of insecure attachment over time. We tested for one possible explanation, namely that it might be explained by their association with the intercept, as individuals who were initially more insecure had further to go in returning to baseline and consequently may display a higher speed of return. However, the slope and intercept were not correlated and the association occurred regardless of whether or not the intercept was controlled. This suggests that an alternative process may be at work. Attachment drive is known to be activated by threats from the environment, so individuals with moderate stressors may have experienced more motivation to approach and be comforted by others, resulting in later reports of less attachment anxiety as a result of responsiveness from others, regardless of their initial level of attachment security.

Boker and Laurenceau (2006), using dynamic systems modeling of observed couples' interactions, found evidence that marital partners mutually influenced each other's levels of intimacy and self-disclosure, suggesting that sense of security may be co-regulated in intimate relationships. This is consistent with recent work on co-regulation of emotion in couples relationships (Laurent & Powers, 2007), and with findings that stressful events following job loss may influence depression in part through correlated qualities of the marital relationship involving support or undermining behavior (Howe et al., 2004).

Interestingly, we did not find evidence that the reciprocal effects model varied according to whether someone is in a relationship or not, but we did find those not currently in a relationship scored significantly higher on anxious attachment at the beginning of the study, were more variable in attachment at that point, showed significant reductions in anxious attachment over time, and showed less variation in such reductions. Day to day reinforcement of attachment security, as evidenced by their partners' presence in their lives, may have buffered attachment anxiety for subjects in relationships as compared to those who were single. Individual differences in response to a job loss event, such as interpretation of the event as personal and specific may have been greater for those without partners. This is consistent with data showing anxious and avoidant attachment interacting significantly with the Big Five personality traits (Nofle & Shaver, 2006). If such individuals demonstrate higher levels of anxious attachment initially, the rebound effect may be more pronounced as well.

It is unclear at present the degree to which the relationship interactions of individuals experiencing job loss are reciprocal, impacted by the attachment security of their romantic partner, or indiscriminate. In other words, the question remains as to whether individuals respond in the same way to all losses, both romantic/interpersonal and job-related, or if their security is influenced by the attachment security of romantic versus job-related attachment figures. This range of attachment security responses could potentially help to explain the finding that higher levels of T1 stressful events were associated with fading of insecure attachment. Perhaps individuals reacted to the significant loss of attachment to job-related individuals with an increased attachment to marital and family attachment figures. For many

families, closeness and attachment may be highest during the very bad times as well as the very good times.

4.2. Limitations

Dynamic models are particularly sensitive to the timing of measurement and the timing of causal effects. The current study employs a relatively long time frame (six months) for studying baseline levels and baseline change, but the time lags for estimates of short-run fluctuations may be too long (around 3 months) to capture important variations at that level. This measurement window can provide only a crude test of hypotheses concerning whether different people have different rates of return to baseline. This would require more frequent assessments of attachment security, such as the weekly or daily assessments employed by Fraley, Vicary, Brumbaugh, & Roisman (2011).

Findings in the current study may also be limited by the use of a sample of individuals experiencing recent job loss. This sample has great variability on age, education, and ethnicity, and the use of a recently unemployed sample provides a meaningful common start point for patterns of change which is usually lacking in samples with individuals experiencing a wide range of different types and levels of stressors. However, the nature of these stressful circumstances may also limit the applicability of these findings when considering different types of stressors, such as those involving major interpersonal losses rather than loss of employment, economic hardship, or conflict with non-romantic others. Future studies focusing on such loss events would help to test the generality of these findings.

Findings in this study are also limited to the measurement of perceived adult attachment security in romantic relationships. Other studies have found that attachment security may differ for different types of relationships (Overall, Fletcher, & Friesen, 2003), and Fraley et al. (2011) provided evidence that dynamic changes in attachment may differ for romantic as compared to parent or friend relationships, at least for college student populations. Future work should also test whether these dynamic patterns vary by relationship type.

Finally, although data are consistent with the thesis that individuals who have lost their jobs also experience reductions in attachment security, a more stringent test of this thesis would require either assessing attachment security prior to job loss, or comparisons with a matched control group of employed individuals. Future research should look for opportunities to track individuals before, during, and after major transitions of this sort.

4.3. Conclusions

Most importantly, our results provide additional evidence that adult attachment security operates in a dynamic and changing manner rather than as a fixed personality trait. Studies show that adult attachment security has implications for outcomes during psychotherapy (e.g., review by Daniel, 2006) and changes resulting from life stressors suggest that it can also be influenced by targeted interventions. Our results also suggest that efforts to improve an individual's attachment security may help to reduce stressors in the future, thereby enhancing longer-term psychological well-being.

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References

- Allen JG, Huntoon J, Evans RB. Complexities in complex posttraumatic stress disorder in inpatient women: Evidence from cluster analysis of MCMI-II personality disorder scales. *Journal of Personality Assessment*. 1999; 73:449–471. doi:10.1207/S15327752JPA7303_10. [PubMed: 10689654]
- Allen JG, McElhaney KB, Kuperminc GP, Jodl KM. Stability and change in attachment security across adolescence. *Child Development*. 2004; 75:1792–1805. doi:10.1111/j.1467-8624.2004.00817.x. [PubMed: 15566380]
- Boker, SM.; Laurenceau, J-P. Dynamical systems modeling: An application to the regulation of the intimacy and disclosure in marriage. In: Walls, TA.; Schaeffer, JL., editors. *Models for Intensive Longitudinal Data*. Oxford University Press; New York, NY: 2006. p. 195-218. Retrieved from <http://data.psych.udel.edu/laurenceau/Gilberto/BokerLaurenceau050212aReprint.pdf>
- Bottonari KA, Roberts JE, Kelly MAR, Kashdan TB, Ciesla JA. A prospective investigation of the impact of attachment style on stress generation among clinically depressed individuals. *Behavior Research and Therapy*. 2007; 45:179–188. doi:10.1016/j.brat.2006.01.003.
- Brennan, K.; Clark, CL.; Shaver, PR. Self-report measurement of adult attachment: An integrative overview. In: Rholes, WS.; Simpson, JA., editors. *Attachment theory and close relationships*. New York: Guilford Press: 1998. p. 46-76. Retrieved from <http://www.guilford.com/>
- Brown, GW.; Harris, T. *Social Origins of Depression*. Tavistock; London, New York: 1978.
- Collins NL. Working models of attachment: Implications for explanation, emotion, and behavior. *Journal of Personality and Social Psychology*. 1996; 71:810–832. doi:10.1037/0022-3514.71.4.810. [PubMed: 8888604]
- Conger RD, Ge X, Elder GH, Lorenz FO, Simons RL. Economic stress, coercive family processes, and developmental problems of adolescents. *Child Development*. 1994; 65:541–561. doi: 10.2307/1131401. [PubMed: 8013239]
- Cozzarelli C, Karafa JA, Collins NL, Tagler MJ. Stability and change in adult attachment styles: Associations with personal vulnerabilities, life events, and global construals of self and others. *Journal of Social and Clinical Psychology*. 2003; 22:315–346. doi:10.1521/jscp.22.3.315.22888.
- Daniel SI. Adult attachment patterns and individual psychotherapy: A review. *Clinical Psychology Review*. 2006; 26(8):968–984. doi:10.1016/j.cpr.2006.02.001. [PubMed: 16545897]
- Davila J, Bradbury TN, Cohan CL, Tochluk S. Marital functioning and depressive symptoms: Evidence for a stress generation model. *Journal of Personality and Social Psychology*. 1997; 73:849–861. doi:10.1037/0022-3514.73.4.849. [PubMed: 9325596]
- Davila, J.; Cobb, RJ. Predictors of change in attachment security during adulthood. In: Rholes, WS.; Simpson, JA., editors. *Adult attachment: Theory, research, and clinical implications*. Guilford Press; New York: 2004. p. 133-156. Retrieved from <http://www.guilford.com/>
- Davila J, Kashy DA. Secure base processes in couples: Daily associations between support experiences and attachment security. *Journal of Family Psychology*. 2009; 23:76–88. doi:10.1037/a0014353. [PubMed: 19203162]
- Davila J, Sargent E. The meaning of life (events) predicts changes in attachment security. *Personality and Social Psychology Bulletin*. 2003; 29:1383–1395. doi:10.1177/0146167203256374. [PubMed: 15198088]
- Fraley RC. Attachment stability from infancy to adulthood: Meta-analysis and dynamic modeling of developmental mechanisms. *Personality and Social Psychology Review*. 2002; 6:123–151. doi: 10.1207/S15327957PSPR0602_03.

- Fraley, RC.; Brumbaugh, CC. A dynamical systems approach to conceptualizing and studying stability and change in attachment security. In: Rholes, WS.; Simpson, JA., editors. *Adult attachment: Theory, research, and clinical implications*. Guilford Press; New York: 2004. p. 86-132. Retrieved from <http://www.guilford.com/>
- Fraley, RC.; Waller, NG. Adult attachment patterns: A test of the typological model. In: Simpson, JA.; Rholes, WS., editors. *Attachment theory and close relationships*. Guilford Press; New York: 1998. p. 77-114. Retrieved from <http://www.guilford.com/>
- Fraley RC, Vicary AM, Brumbaugh CC, Roisman GI. Patterns of stability in adult attachment: An empirical test of two models of continuity and change. *Journal of Personality and Social Psychology*. 2011; 101:974–992. doi:10.1037/a0024150. [PubMed: 21707199]
- Gentzler AL, Kerns KA, Keener E. Emotional reactions and regulatory responses to negative and positive events: Associations with attachment and gender. *Motivation and Emotion*. 2010; 34:78–92. doi: 10.1007/s11031-009-9149-x.
- Gillath O, Hart J, Nofhle EE, Stockdale GD. Development and validation of a state adult attachment measure (SAAM). *Journal of Research in Personality*. 2009; 43:362–373. doi:10.1016/j.jrp.2008.12.009.
- Hammen C. Generation of stress in the course of unipolar depression. *Journal of Abnormal Psychology*. 1991; 100:555–561. doi:10.1037/0021-843X.100.4.555. [PubMed: 1757669]
- Hammen C, Brennan PA, Le Brocque R. Youth depression and early childrearing: Stress generation and intergenerational transmission of depression. *Journal of Consulting and Clinical Psychology*. 2011; 79:353–363. doi:10.1037/a0023536. [PubMed: 21517152]
- Hankin BL, Kassel JD, Abela JR. Adult attachment dimensions and specificity of emotional distress symptoms: Prospective investigations of cognitive risk and interpersonal stress generation as mediating mechanisms. *Personality and Social Psychology Bulletin*. 2005; 31:136–151. doi: 10.1177/0146167204271324. [PubMed: 15574668]
- Howe GW, Levy M, Caplan RD. Job loss and depressive symptoms in couples: Common stressors, stress transmission, or relationship disruption? *Journal of Family Psychology*. 2004; 18:639–650. L. doi:10.1037/0893-3200.18.4.639. [PubMed: 15598169]
- Kirkpatrick LA, Hazan C. Attachment styles and close relationships: A four-year prospective study. *Personal Relationships*. 1994; 1:123–142. doi:10.1111/j.14756811.1994.tb00058.x.
- Klohn EC, Bera S. Behavioral and experiential patterns of avoidantly and securely attached women across adulthood: A 31-year longitudinal perspective. *Journal of Personality and Social Psychology*. 1998; 74:211–223. doi:10.1037/0022-3514.74.1.211. [PubMed: 9457783]
- Laurent H, Powers S. Emotion regulation in emerging adult couples: Temperament, attachment, and HPA response to conflict. *Biological Psychology*. 2007; 76:61–71. doi: 10.1016/j.biopsycho.2007.06.002. [PubMed: 17681662]
- Mikulincer M. Adult attachment style and individual differences in functional versus dysfunctional experiences of anger. *Journal of Personality and Social Psychology*. 1998; 74:513–524. doi: 10.1037/0022-3514.74.2.513. [PubMed: 9491590]
- Mikulincer M, Nachshon O. Attachment styles and patterns of self-disclosure. *Journal of Personality and Social Psychology*. 1991; 61:321–331. doi:10.1037/0022-3514.61.2.321.
- Muller RT, Rosenkrantz SE. Attachment and treatment response among adults in inpatient treatment for Posttraumatic Stress Disorder. *Psychotherapy Theory, Research, Practice, & Training*. 2009; 46:82–96. doi:10.1037/a0015137.
- Nofhle EE, Shaver PR. Attachment dimensions and the big five personality traits: Associations and comparative ability to predict relationship quality. *Journal of Research in Personality*. 2006; 40:179–208. doi:10.1016/j.jrp.2004.11.003.
- Overall NC, Fletcher GJO, Friesen M. Mapping the intimate relationship mind: Comparisons between three models of attachment representations. *Personality and Social Psychology Bulletin*. 2003; 29:1479–1493. doi:10.1177/0146167203251519. [PubMed: 15018680]
- Pistole MC. Attachment in adult romantic relationships: Style of conflict resolution and relationship satisfaction. *Journal of Social and Personal Relationships*. 1989; 6:505–510. doi: 10.1177/0265407589064008.

- Ravitz P, Maunder R, Hunter J, Sthankiya B, Lancee W. Adult attachment measures: A 25-year review. *Journal of Psychosomatic Research*. 2010; 69:419–432. doi:10.1016/j.jpsychores.2009.08.006. [PubMed: 20846544]
- Roberts JE, Gotlib IH, Kassel JD. Adult attachment security and symptoms of depression: The mediating roles of dysfunctional attitudes and low self-esteem. *Journal of Personality and Social Psychology*. 1996; 70:310–320. doi:10.1037/0022-3514.70.2.310. [PubMed: 8636884]
- Rholes WS, Simpson JA, Orina MM. Attachment and anger in an anxiety-provoking situation. *Journal of Personality and Social Psychology*. 1999; 76:940–957. doi:10.1037/0022-3514.76.6.940. [PubMed: 10402680]
- Ruvolo AP, Fabian LA, Ruvolo CM. Relationship experiences and changes in attachments characteristic of young adults: The role of relationship breakups and conflict avoidance. *Personal Relationships*. 2001; 8:265–281. doi:10.1111/j.1475-6811.2001.tb00040.x.
- Satorra A, Bentler PM. Ensuring positiveness of the scaled difference chi-square test statistic. *Psychometrika*. 2010; 75:243–248. doi:10.1007/s11336-009-9135-y. [PubMed: 20640194]
- Shadish, WR.; Cook, TD.; Campbell, DT. *Experimental and Quasi-Experimental Designs for Generalized Causal Inference*. Houghton Mifflin; Boston: 2001.
- Shaver PR, Belsky J, Brennan K. The adult attachment interview and self-reports of romantic attachment: Associations across domains and methods. *Personal Relationships*. 2000; 7:25–43. doi:10.1111/j.1475-6811.2000.tb00002.x.
- Sibley CG, Overall NC. The boundaries between attachment and personality: Associations across three levels of the attachment network. *Journal of Research in Personality*. 2007; 41(4):960–967. doi: 10.1016/j.jrp.2006.10.002.
- Singer, JD.; Willet, JB. *Applied Longitudinal Data Analysis: Modeling Change and Event Occurrence*. Oxford University Press; Oxford: 2003.
- Sperling MB, Foelsch P, Grace C. Measuring adult attachment: Are self-report instruments congruent? *Journal of Personality Assessment*. 1996; 67:37–51. doi:10.1207/s15327752jpa6701_3. [PubMed: 8683425]
- Wethington, E. *Structured Life Events Inventory*. *Evaluating Stress: A Book of Resources*. Zalaquett, CP.; Wood, RJ., editors. Scarecrow Press; London: 1997. p. 391-403.
- Wilson, C. *Sociotropy, life stress and depression: A new method of testing specific vulnerability*. The George Washington University; Washington, D. C.: 2001. Unpublished Ph.D. dissertation

- We model stressors and attachment security over six months following job loss.
- We found evidence for both the stress-effects and stress-generation hypotheses.
- More stressors were associated with prospective decreases in attachment security.
- Lower attachment security was associated with prospective increases in stressors.
- Adult attachment security operates in a dynamic and changing, not fixed, manner.

Figure 1.

Autoregressive model with reciprocal effect paths. Dotted lines reflect paths that were not significant. Path parameters are standardized parameters. Parameters above the line indicate avoidant attachment, those below the line indicate anxious attachment (see Table 5 for unstandardized parameters and standard errors).

Table 1

Means, standard deviations, and correlations among variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Adult Attachment Scale																	
1 Time 1 Anxious																	
2 Time 1 Avoidant	.57***																
3 Time 3 Anxious	.68***	.46***															
4 Time 3 Avoidant	.45***	.70***	.59***														
5 Time 5 Anxious	.64***	.43***	.78***	.54***													
6 Time 5 Avoidant	.53***	.88***	.51***	.78***	.56***												
Stressors																	
7 Initial Job Loss Threat	.06	.07	.06	.09	.10	.06											
8 Time 1 Events Severity	.12*	.13**	.14**	.08	.09	.12*	.11*										
9 Time 2 Events Severity	.13*	.13*	.09	.12*	.11*	.11*	.04	.13*									
10 Time 3 Events Severity	.16**	.09	.16**	.19***	.04	.10	.04	.05	.21***								
11 Time 4 Events Severity	.09	.04	.14*	.08	.09	.05	-.04	.17**	.26***	.08							
12 Time 5 Events Severity	.02	.12*	.01	.11*	-.02	.14**	.05	.09	.12*	.11	.16**						
13 Time 1 Stressful Events	.27***	.25***	.25***	.24**	.18***	.25***	.15***	.20***	.14**	.19**	.19***	.20***					
14 Time 2 Stressful Events	.28***	.31***	.42***	.28**	.31***	.30***	.13*	.22***	.24***	.16**	.22***	.21***	.66***				
15 Time 3 Stressful Events	.19***	.31***	.32***	.32***	.24***	.31***	.13*	.23***	.15**	.19**	.20***	.24***	.63***	.79***			
16 Time 4 Stressful Events	.18***	.29***	.31***	.28***	.24***	.30***	.09	.27***	.20***	.10	.34***	.24***	.55***	.76***	.80***		
17 Time 5 Stressful Events	.20***	.27***	.25***	.26***	.22***	.30***	.11*	.18***	.13*	.02	.25***	.38***	.57***	.68***	.70***	.79***	
Mean	13.50	19.86	12.65	20.44	12.43	20.50	5.80	.74	1.29	.67	.79	.99	12.25	11.13	9.96	9.25	9.77
SD	6.52	4.51	5.65	4.25	5.68	4.29	1.38	1.26	1.01	1.00	.95	1.15	7.01	6.39	6.92	7.40	7.43

Note: Stressful Events= Stressful Events Checklist. Events Severity= Post-Job Loss Events Severity.

*
p < .05;**
p < .01;***
p < .001

Table 2

Unstandardized parameters from model of change in avoidant and anxious attachment

	Avoidant			Anxious		
	Parameter	SE	95% CI	Parameter	SE	95% CI
Latent Trajectory Component						
Fixed Effects						
Mean Intercept	19.771 ***	0.220	19.409, 20.133	13.477 ***	0.328	12.938, 14.017
Mean Slope	-0.090 ***	0.016	-0.064, -0.116	-0.138 ***	0.037	-0.199, -0.077
Random Effects						
Intercept variance	15.246 ***	2.091	11.806, 18.686	27.134 ***	3.658	21.116, 34.303
Slope variance	0.005	0.035	-0.052, 0.062	0.118 +	0.071	0.002, 0.235
Intercept - Slope covariance	0.106	0.203	-0.228, 0.439	-0.498	0.420	-1.188, 0.193
Residual Variances						
T1 attachment	4.010 ***	1.004	2.359, 5.661	16.113 ***	2.241	12.427, 19.799
T3 attachment	6.889 ***	0.868	5.462, 8.316	7.118 ***	1.338	4.918, 9.319
T5 attachment	0.719	0.806	-0.607, 2.045	4.937 *	2.527	1.723, 8.152

*Note.*** $p < .01$;* $p < .05$;*** $p < .001$

Table 3

Unstandardized parameters from model of change in anxious attachment comparing those with and without spouses or partners

	With spouse or partner			Without spouse or partner		
	Parameter	SE	95% CI	Parameter	SE	95% CI
Latent Trajectory Component						
Fixed Effects						
Mean Intercept	11.919***	0.372	11.307, 12.531	15.302***	0.529	14.433, 16.172
Mean Slope	-0.049	0.044	-0.122, 0.023	-0.230***	0.055	-0.321, -0.139
Random Effects						
Intercept variance	18.149***	2.091	12.295, 24.003	29.134***	4.702	21.399, 36.870
Slope variance	0.165*	0.035	0.039, 0.290	0.003	0.102	-0.165, 0.170
Intercept - Slope covariance	-0.198	0.203	-0.842, 0.446	-0.198	0.391	-0.842, 0.446

Note.

** $p < .01$;

* $p < .05$;

*** $p < .001$

Table 4

Unstandardized parameters for predictors of slope and intercept of attachment measures

	Avoidant			Anxious		
	Parameter	SE	95% CI	Parameter	SE	95% CI
Predictors of Intercept						
Initial Job Loss Threat	.100	.154	-.154, .354	-.053	.251	-.465, .360
T1 Stressful Events Checklist	.158***	.028	.111, .204	.252***	.046	.176, .327
T1 Events Severity	.238	.165	-.034, .511	.423	.261	-.005, .852
Predictors of Slope						
Initial Job Loss Threat	-.006	.013	-.027, .015	.037	.026	-.005, .079
T1 Stressful Events Checklist	-.001	.002	-.005, .003	-.014**	.005	-.023, -.005
T1 Events Severity	.001	.013	-.020, .023	-.027	.032	-.081, .026

Note. Events Severity= Post-Job Loss Events Severity. +p < .10;

* p < .05;

** p < .01;

*** p < .001

Table 5

Paths in autoregressive models. Unstandardized paths are indicated by b; standardized paths are indicated by β .

		Avoidant				Anxious			
		b	SE	95% CI	β	b	SE	95% CI	β
Stress to Attachment paths									
	T3								
T1 Job Loss Threat	→ Attachment	-.016	.058	-.111, .080	-.005	.066	.090	-.082, .213	.016
T2 Events Severity	→ T3 Attachment	-.089	.109	-.267, .090	-.020	-.209	.164	-.478, .061	-.037
T2 Stressful Events	→ T3 Attachment	.048***	.015	.024, .072	.067	.225***	.046	.149, .301	.253
T4 Events Severity	→ T5 Attachment	-.089	.189	-.267, .090	-.020	-.209	.164	-.478, .061	-.035
T4 Stressful Events	→ T5 Attachment	.048***	.015	.024, .072	.084	-.003	.035	-.060, .054	-.004
Attachment to stress paths									
T1 Attachment	→ T2 Events Severity	.018 ⁺	.010	.002, .035	.082	.021**	.007	.008, .033	.132
T1 Attachment	→ T2 Stressful Events	.215***	.059	.117, .312	.152	.082*	.033	.027, .137	.084
T3 Attachment	→ T4 Events Severity	.018 ⁺	.010	.002, .035	.088	.021**	.007	.008, .033	.124
T3 Attachment	→ T4 Stressful Events	.018	.065	-.089, .125	.011	.082*	.033	.027, .137	.063

Note. Events Severity= Post-Job Loss Events Severity. Stressful Events= Stressful Events Checklist.

⁺ p < .10;

* p < .05;

** p < .01;

*** p < .001